Tortricidae (Lepidoptera) collected in Ecuador in the years 1996–1999: Tortricini and Cochylini

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Abstract: The introduction to the series "Tortricidae of Ecuador" is presented. The data on the collection of Tortricidae in Ecuador in the years 1996–1999 are provided. One species of Tortricini and 20 of the 22 listed species of Cochylini are new records for Ecuador. Two cochyline genera, viz. ***Macasinia* gen. n.** and ***Perlorita* gen. n.**, and 6 species (*Henricus* ***metalliferus* sp. n.**, *Saphenista* ***rivadeneirai* sp. n.**, *Macasinia* ***furcata* sp. n.**, *Eugnosta* ***proanoa* sp. n.**, *Perlorita* ***pilumgestatum* sp. n.**, *Aethes* ***macasiana* sp. n.**) are described as new. The holotypes of the new species are at the moment in collection Volker Pelz, Ruppichteroth, and will eventually be deposited in Senckenberg-Museum, Frankfurt am Main.

Key words: Lepidoptera, Tortricidae, Tortricini, Cochylini, Ecuador, new taxa.

Tortricidae (Lepidoptera) gesammelt in Ecuador in den Jahren 1996–1999: Tortricini und Cochylini

Zusammenfassung: Die Artikelserie „Tortricidae of Ecuador" wird vorgestellt. Die Untersuchungsgebiete und die Fundorte des während dreier Reisen in den Jahren 1996–1999 gesammelten Tortricidaematerials werden kurz beschrieben. Eine Tortricini-Art und 20 der 22 aufgeführten Cochylini-Arten sind Neunachweise für Ecuador. Zwei Cochylini-Gattungen (***Macasinia* gen. n.**, ***Perlorita* gen. n.**) und sechs Arten (*Henricus* ***metalliferus* sp. n.**, *Saphenista* ***rivadeneirai* sp. n.**, *Macasinia* ***furcata* sp. n.**, *Eugnosta* ***proanoa* sp. n.**, *Perlorita* ***pilumgestatum* sp. n.**, *Aethes* ***macasiana* sp. n.**) werden neu beschrieben. Die Holotypen der neuen Arten befinden sich zur Zeit in der Sammlung Volker Pelz, Ruppichteroth und werden letzlich an das Forschungsinstitut und Natur-Museum Senckenberg, Frankfurt am Main, gelangen.

Tortricidae (Lepidoptera) coleccionadas en Ecuador en los años 1996–1999: Tortricini y Cochylini

Resumen: Se presenta la introduccíon a la serie de artículos "Tortricidae of Ecuador". Se dan los datos de la colección de Tortricidae en Ecuador en los años 1996–1999. Una especie de Tortricini y veinte de los veintidós registradas especies de Cochylini estan citadas por primera vez para Ecuador. Se describen dos nuevos géneros (***Macasinia* gen. n.**, ***Perlorita* gen. n.**) y seis nuevas especies (*Henricus* ***metalliferus* sp. n.**, *Saphenista* ***rivadeneirai* sp. n.**, *Macasinia* ***furcata* sp. n.**, *Eugnosta* ***proanoa* sp. n.**, *Perlorita* ***pilumgestatum* sp. n.**, *Aethes* ***macasiana* sp. n.**) de Cochylini. Los holotipos de las especies nuevas se encuentran en la colección Volker Pelz, Ruppichteroth, determinados ultimamente para el Senckenberg-Museum, Frankfurt am Main.

Introduction

The studies on the Tortricidae of Ecuador were begun by the senior author (Razowski 1999) who summarized the data dispersed in the literature and described several new taxa. A low number of only 59 species included in this list demonstrates the very poor knowledge of this family in the area studied. He intends to continue the studies on the Tortricidae of Ecuador by starting a series of papers dealing with various groups of these moths and different parts of this country in cooperation with other lepidopterists. Recently Tortricidae were collected by V. O. Becker, Brasília, Brazil, V. Pelz, Ruppichteroth, Germany, and J. Wojtusiak, Cracow, Poland. Further collecting trips are planned by all of them within a few following years. The cooperation with these colleagues was started with a paper on three new North Andean genera of Euliini (Razowski & Becker 2000). The present paper is thus the third part of the series "Tortricidae of Ecuador". However, the preceding two are not numbered.

This paper is based on the material collected by the junior author during his three trips in the years 1996–1999. This collection consists of over 650 specimens and nearly 120 species of Tortricidae. In this part we would like to describe the area studied and the collecting sites to some extent. We hope this introduction will serve not only for the purposes of our series of articles but also for other papers on the collected insect material.

Most of the material was collected in the surroundings of Macas, a town at an elevation of 1000 m a.s.l. in the province Morona-Santiago. It is situated in the valley of the Río Upano at the east side of the Andes in the humid upper tropical zone. The majority of the collecting localities near Macas are at the levels between 900 and 1100 m. The collecting was done in the forest habitats (sites 3, 5, 7, 8) and in the cultivated land with remnants of a secondary forest and shrubland (sites 4, 6). On the nearby eastern slopes of the Andes at the elevations above 1500 m the flora and fauna appears to be visibly different from the above mentioned localities. The collecting there was done near the road from Macas to Alshi (= Nueve de Octubre) in the forest habitats on steep slopes along the road side (sites 1, 2, 9). Moreover it was possible to collect some material in the lowland rainforest near the Peruvian border. Here, the collecting localities (sites 10, 11) are situated between 300 and 450 m in the humid tropical zone. At the Pacific coast collecting took place near Salinas (site 13) in the arid tropical region. At higher altitudes in the Andes collecting was performed in the province of Azuay. During day-time in the surroundings of Cuenca at altitudes of 2500–2600 m and recently (October 2000) with the light-trap near Gualaceo at an elevation of 3300 m in high montane forest and bamboo-thicket (site 14).

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Fig. 1: General map of Ecuador with situation of detailed maps A and B and the collecting sites 12–14 (map via Internet from Perry-Castañeda Map Collection, University of Texas, Austin).

Normally two 15 W UV-light tubes and a car battery as energy source were used for collecting. Occasionally also an automatic trap with 8 W black light was used with good results deeper inside the forest (Fig. 9).

List of collecting sites

Information about localities and spelling according to Gómez (1995). The numbers correspond with those on the maps (Figs. 1, 1A, 1B).

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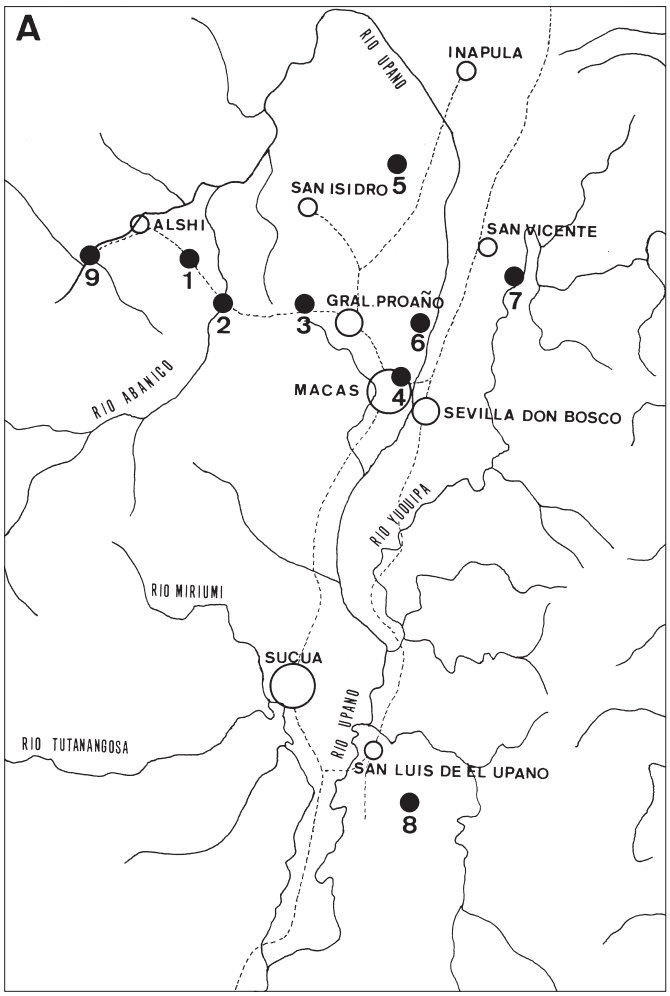

Fig. 1A: Surroundings of Macas, Morona-Santiago Province (sector A of map 1) with situation of collecting sites 1–9 (drawn according to map in Gómez 1995).

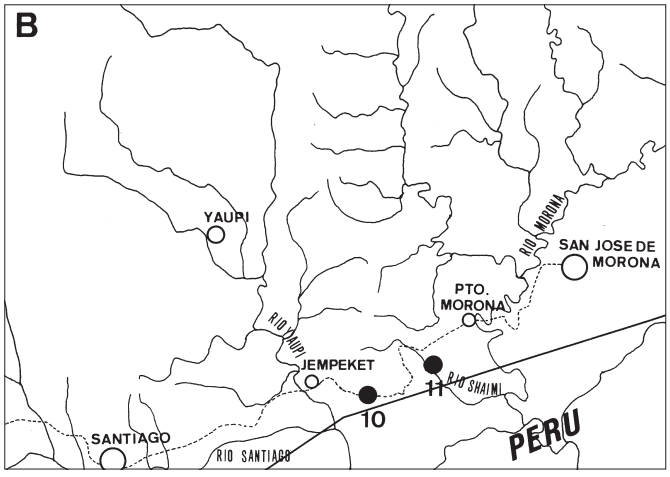

Fig. 1B: Sector B of map 1 with situation of the collecting sites 10 and 11, near the Peruvian border, Morona-Santiago Province (drawn according to map in Gómez 1995).

1. Road from Gral. Proaño to Alshi, 5 km SO Alshi, 1700 m, Macas, Province Morona-Santiago (Figs. 7, 8).
2. Road from Gral. Proaño to Alshi, Río Abanico, 1500 m, Macas, Province Morona-Santiago.
3. Gral. Proaño, Río Jurumbaino, 1100 m, Macas, Province Morona-Santiago.
4. Macas, 1000 m, Province Morona-Santiago (Figs. 5, 6).
5. Road from Gral. Proaño to Inapula, CREA-Domono, 1100 m, Macas, Province Morona Santiago (Fig. 9).
6. Orillas del Río Upano, 1000 m, Macas, Province Morona Santiago.
7. San Vicente, Río Yukipa (= Yuquipa), 900 m (Cabañas ecológicas), Macas, Province Morona Santiago.
8. Sucua, San Luis de El Upano, 1000 m, Macas, Province Morona-Santiago.
9. Road from Gral. Proaño to Alshi, 4 km W Alshi, Río Upano, 1700 m, Macas, Province Morona-Santiago.
10. Jempeket, Loma de Shaimi, 450 m, Province Morona-Santiago (Fig. 10).
11. Pto. Morona, Río Shaimi, 350 m, Province Morona-Santiago.
12. Cuenca, 2500 m, Province Azuay.
13. La Libertad, Punta Barandua, 5 m, Province Guayas (Fig. 4).
14. Road from Gualaceo to Plan de Milagro, 22 km SO Gualaceo, Cordillera Zapote Naida, 3300 m, Province Azuay (Figs. 2, 3).

Abbreviations and collections:

>	road from > to
CREA	Centro de Reconversión Económica del Austro (Azuay, Cañar y Morona-Santiago)
CVPR	Collection Volker Pelz, Ruppichteroth
Gral.	General
GS	Genitalia slide
SMFL	Forschungsinstitut und Natur-Museum Senckenberg, Frankfurt am Main
UCB	University of California, Berkeley

Notes. The figures given in the descriptions of the labial palpus indicate the proportion of its total length to the diameter of eye.

The photographs were taken by the junior author, the black and white drawings of genitalia are by the senior author.

Acknowledgments

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Color plate 1: Figs. 2–10: Habitats. **Fig. 2:** High montane vegetation near the road from Gualaceo to Plan de Milagro, 22 km SO Gualaceo, Cordillera Zapote Naida, 3300 m, collecting site 14. **Fig. 3:** Francisco RIVADENEIRA in high montane forest at collecting site 14. **Fig. 4:** Semidesertic habitat at the Pacific coast near Salinas, La Libertad, collecting site 13. **Fig. 5:** View at Río Upano from the northern part of Macas: cultivated land, shrubs and bushland, collecting site 4. **Fig. 6:** Town of Macas with volcano Sangay. **Fig. 7:** View at Río Abanico from collecting site 1. **Fig. 8:** Rainforest on steep slope near the road Macas–Alshi, 1700 m, collecting site 1. Locus typicus of *Henricus metalliferus* sp. n. and *Saphenista rivadeneirai* sp. n. **Fig. 9:** Collecting site 5, with light trap in forest gap near road from Gral. Proaño to Inapula, CREA-Domono. **Fig. 10:** Collecting site 10, small stream in the forest near Jempeket, Loma de Shaimi, 450 m.

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Systematic part

Tortricini

This tribe is poorly represented in the Neotropical Region as only two genera (*Acleris* Hübner, 1825, and *Apotoforma* Busck, 1934) were discovered up to now. *Apotoforma*, revided by the senior author (Razowski 1993), is represented by nine Neotropical species of which two are found in the South American continent (the Venezuelan *A. cydna* Razowski, 1993 and *A. epacticta* Razowski & Becker, 1984 from Brazil). Remaining species are Central American including Mexico and the islands of the Caribbean Sea.

Apotoforma epacticta Razowski & Becker, 1984 (Fig. 11)

Material examined: Five ♀♀ from Morona-Santiago Prov., Macas, Proaño > Inapula, CREA-Domono, 1100 m.

This species was known from Mato Grosso, Brazil, only. However, some slight differences between the Ecuadorian specimens and the Brazilian ones in the shape of the colliculum are noticed (Fig. 11). Unfortunately the ♂ has not been collected in Ecuador. Due to the present record in Ecuador *A. epacticta* is provisionally recognized as the most widely distributed Neotropical Tortricini species.

Cochylini

The Cochylini are now the best known tribe of Tortricidae in the Neotropics. Razowski (1994) lists as many as 401 species and 84 genera. Several additional taxa were discovered later. In Ecuador 12 species were found to this date (Razowski 1999). This paper treats with 22 species of which only two were known from Ecuador before. The data on the distribution of the majority of Neotropical species is rather limited and we known them to occur in small areas very often restricted to the type localities or the particular countries only (Razowski 1994). The present material shows that some species discovered in Ecuador are widely distributed. For instance, *Cirrothaumatia tornosema* (Clarke, 1968) was known from Mexico, Costa Rica and Guatemala, and *C. vesta* (Clarke, 1968) from Venezuela. *Phalonidia squalida* (Razowski & Becker, 1983) was found in the eastern part of the continent, in Venezuela and Brazil, *Saphenista imaginaria* Razowski & Becker, 1986 was recorded from Costa Rica and Honduras. In Ecuador there are found some Brazilian species, for example, *Phalonidia pellax* (Razowski & Becker, 1983), *P. fatua* (Razowski & Becker, 1983), *P. melletes* Razowski & Becker, 1994, *P. trabalea* Razowski & Becker, 1994, *Mourecochylis ramosa* Razowski & Becker, 1983, and *Platphalonidia fusifera* (Meyrick, 1912) (this last known also from Argentina). Some other species were known from the neighboring countries, e.g., *Lasiothyris heterophaea* (Clarke, 1968).

The Ecuadorian *Cochylini* belong to 13 genera of which three (*Cirrothaumatia* Razowski & Becker, 1986, *Lasiothyris* Meyrick, 1912, *Mourecochylis* Razowski & Becker, 1983) are new records for Ecuador. Of the remaining genera the most abundand in Ecuador, as everywhere in this region, are *Phalonidia* Le Marchand, 1933 and *Saphenista* Walshingham, 1914.

Henricus metalliferus sp. n. (Figs. 12, 13, 26)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Proaño > Alshi, 5 km SO Alshi, 1700 m, 5. Julio 1999, leg. Volker Pelz"; GS 961-V.P. (CVPR, to be deposited in SMFL).

Etymology: The specific name refers to the caracteristic strong refractive markings of the forewing (Latin: metallum = metal, ferre = to carry).

Description

♂ (Fig. 26). Wing span ca. 13 mm. Head white, laterally and proximally greyish, labial palpus (1.5) ochreous to $^{2}/_{3}$; thorax dark rust brown to middle, otherwise greyish brown. Forewing somewhat expanding posteriorly; apex rounded, rather broad; costa straight to $^{2}/_{3}$ where it is marked by extending scales; termen oblique, hardly convex. Costal fold to costal erect scales. Ground colour brownish, in distal third ochreous grey, with large fascias of refractive scales; markings rust brown or dark brown in form of spots and blotches: median fascia not oblique, with black-brown elongate marks; dorsum dark rust brown; subapical fascia blackish brown. Cilia yellowish ferruginous with browner basal lines and grey brown divisions in apical half of wing. Hindwing grey, dark grey tinged brownish in outer half; cilia whitish grey, grey in apical third.

♂ genitalia (Figs. 12, 13). Distal part of tegumen slender; socii very long, thin, marked by a few spines terminally. Valva broad, short, with small terminal portion; sacculus over half length of costa of valva, provided with dorso-postbasal process. Median part of transtilla slender; juxta larger than in other species of *Henricus* Busck, 1943. Aedeagus large; coecum penis broad; cornutus rather short, curved. Scent area situated near base of valva with long, thin scales.

Remarks. This is one of innumerous species known south of Mexico and the second one (after *H. generosus* Razowski, 1994) discovered in Ecuador. A few other species are known from Costa Rica and Guatemala. It is very distinct by its ferruginous brown coloration of the forewings, the strong refractive markings, and its male genitalia. The socii resemble those in the representatives of *Aethes* Billberg, 1820.

Cirrothaumatia tornosema (Clarke, 1968)

Material examined: One ♀ from Macas, Proaño > Inapula, CREA-Domono, 1100 m.

This species was described from Guatemala and was then (Razowski 1994) also recorded from Costa Rica and Veracruz, Mexico. Its area extends now as far as Ecuador. The senior author examined also a specimen from Tinalandia, Prov. Pichincha, collected at the altitude of 980 m (coll. UCB).

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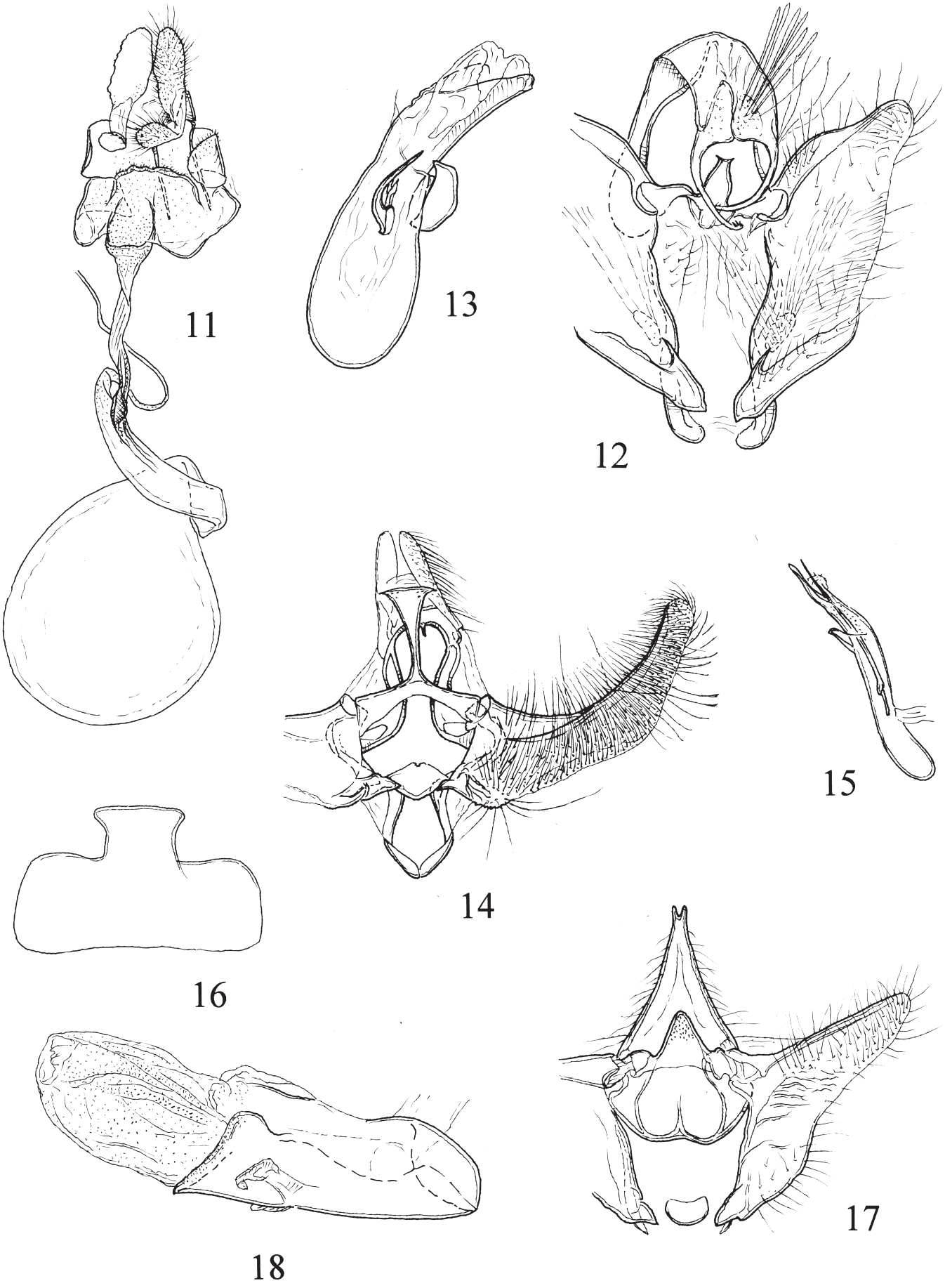

Figs. 11–18: ♂ and ♀ genitalia. **Fig.11:** *Apotoforma epacticta* Razowski & Becker, 1984, Ecuador, Macas, Proaño > Inapula, CREA-Domono, 1100 m. **Figs. 12, 13:** *Henricus metalliferus* sp. n., holotype. **Figs. 14, 15:** *Saphenista rivadeneirai* sp. n., holotype. **Fig. 16:** abdominal scent organ of same specimen. **Figs. 17, 18:** *Macasinia furcata* sp. n., holotype.

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Cirrothaumatia vesta (Clarke, 1968)

Material examined: One ♀ from Macas, Proaño > Alshi, 5 km SO Alshi, 1700 m.

Formerly known exclusively from Venezuela.

Phalonidia squalida (Razowski & Becker, 1983)

Material examined: Four ♂♂ from Macas, Gral. Proaño, Río Jurumbaino, 1100 m.

This species was known from Brazil only (Paraná and Santa Catarina). In Ecuador there is another very closely related species, *P. ochracea* Razowski, 1967, recorded also from British Guiana. They differ in the size of the aedeagus and in the shape and size of the cornuti.

Phalonidia pellax (Razowski & Becker, 1983)

Material examined: One ♂ from Macas, San Vicente, Río Yukipa, 900 m.

P. pellax is known from Paraná, Brazil. Our specimen is very similar to the Brazilian species and the only difference is in the aedeagus which is much broader.

Phalonidia trabalea Razowski & Becker, 1994

Material examined: One ♂ from Macas, Proaño > Inapula, CREA-Domono, 1100 m.

The holotype was collected in Pará, Brazil. It is probably more widely distributed in the area. New to Ecuador.

Phalonidia nonaxyra Razowski, 1994 (Fig. 27)

Material examined: One ♀ from Macas, Proaño > Alshi, 5 km SO Alshi, 1700 m.

This species was described from Ecuador: vicinity of Sta. Barbara, La Bonita, Prov. Napo, at the altitude of 2400 m.

Phalonidia fatua (Razowski & Becker, 1983)

Material examined: One ♀ from Macas, Gral. Proaño, Río Jurumbaino, 1100 m.

P. fatua was described from Santa Catarina, Brazil, after a single ♀. The genitalia of our specimen fit to those of the type but the colliculum seems to be a little broader. This could be dependant on the pressure of the covering glass, however. New to Ecuador.

Phalonidia ?melletes Razowski & Becker, 1994

Material examined: One ♀ collected in Macas, Proaño > Inapula, CREA-Domono, 1100 m.

Our specimen differs from the type of *P. melletes* in a more strongly sclerotized ductus bursae. This species was described from Central Brazil (Federal District).

Lasiothyris heterophaea (Clarke, 1968)

Material examined: 1 ♂, 1 ♀ taken in Macas at the altitude of 1000 m, one in San Vicente, Río Yukipa, 900 m.

This species was formerly known only from the type locality in Colombia. In our specimen the median part of the transtilla is apparently more slender. The ♀ genitalia of our specimen are similar to those of the Mexican *L. gravida* Razowski, 1986, but differ in a less sclerotized proximal portion of the accessory bursa and a shorter sclerite of the median part of the ductus bursae.

Saphenista imaginaria Razowski & Becker, 1986

Material examined: 5 ♂♂, 3 ♀♀ from Macas, 1000 m and Proaño > Inapula, CREA-Domono, 1100 m.

This species was described from Costa Rica. One ♂ specimen was found in Honduras but shows slight genital differences to the type. Our specimens do not differ from the Costarican population.

Saphenista rivadeneirai sp. n. (Figs. 14–16, 28)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Proaño > Alshi, 5 km SO Alshi, 1700 m, 5. Julio 1999, leg. Volker Pelz"; GS 1005-V.P. (CVPR, to be deposited in SMFL).

Etymology: The new species is named in honour of Francisco Rivadeneira Rivadeneira for his help and companionship on many field trips.

Description

♂ (Fig. 28). Wing span 12 mm. Head brown, front creamy, labial palpus (ca. 2) pale ferruginous, white terminally; Thorax olive brown. Forewing expanding distally; costa bent beyond middle; apex rounded, very short; termen somewhat oblique, indistinctly convex. Ground colour creamy, distinctly suffused or diffusely spotted ochreous, in dorsal area more brownish grey, especially before tornus where forming a triangular blotch. Markings distinct: dorsal blotch rather trapezoid, dark brown, reaching UCBital stem of median cell followed by much paler median mark and rust brown costal triangle; subapical fascia rust brown, suffused blackish near termen; blackish dot beyond end of median cell. Cilia creamy with ochreous divisions. Hindwing dark brownish grey, paler and greyer in basal area; cilia concolorous with middle of wing, with weak median line.

♂ **genitalia** (Figs. 14, 15) as in *S. discrepans* Razowski, 1994 but median part of transtilla somewhat shorter, vinculum provided with slender, apical process, aedeagus more slender and longer and cornutus with twice longer proximal process.

Remarks. The new species is easily distinguished by the strong, elongate scent organ (Fig. 16) of the sixth abdominal sternite which in the mentioned species is short, rounded. Externally it resembles *S. burrens* Razowski, 1993 from Peru (known from a single ♀ only) in having purple brown subapical markings. In *S. burrens* the subapical fascia is constricted medially and placed on greenish grey ground colour. In the new species this fascia is in this part uniformly broad, on creamy ochreous ground colour. It also may be easily distinguished by a large, dark brown dorsal, subsquare blotch and dark, brown-grey hindwing.

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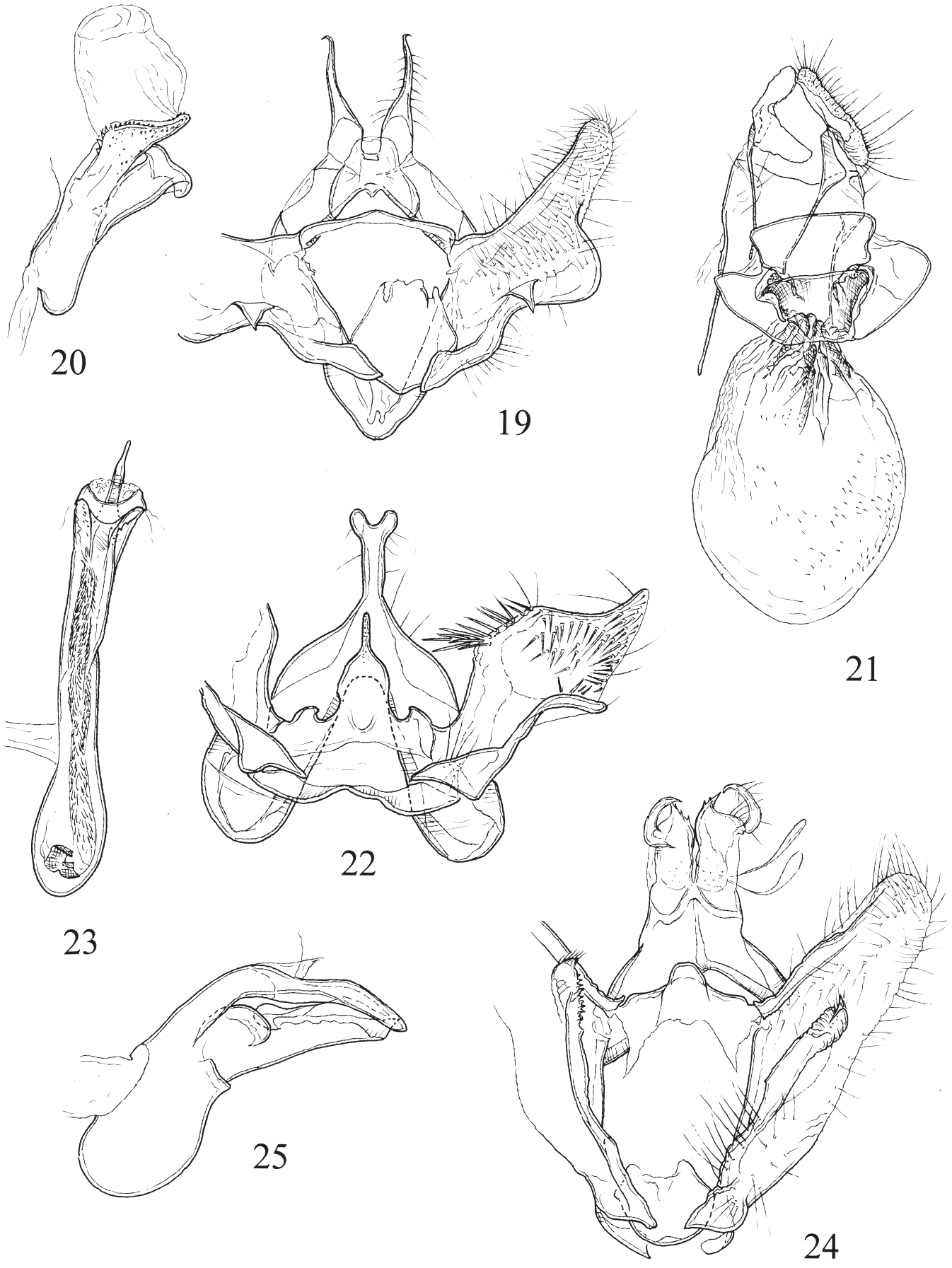

Figs. 19–25: ♂ and ♀ genitalia. **Figs. 19, 20:** *Eugnosta proanoa* sp. n., holotype. **Fig. 21:** same species, paratype. **Figs. 22, 23:** *Perlorita pilumgestatum* sp. n., paratype. **Figs. 24, 25:** *Aethes macasiana* sp. n., holotype.

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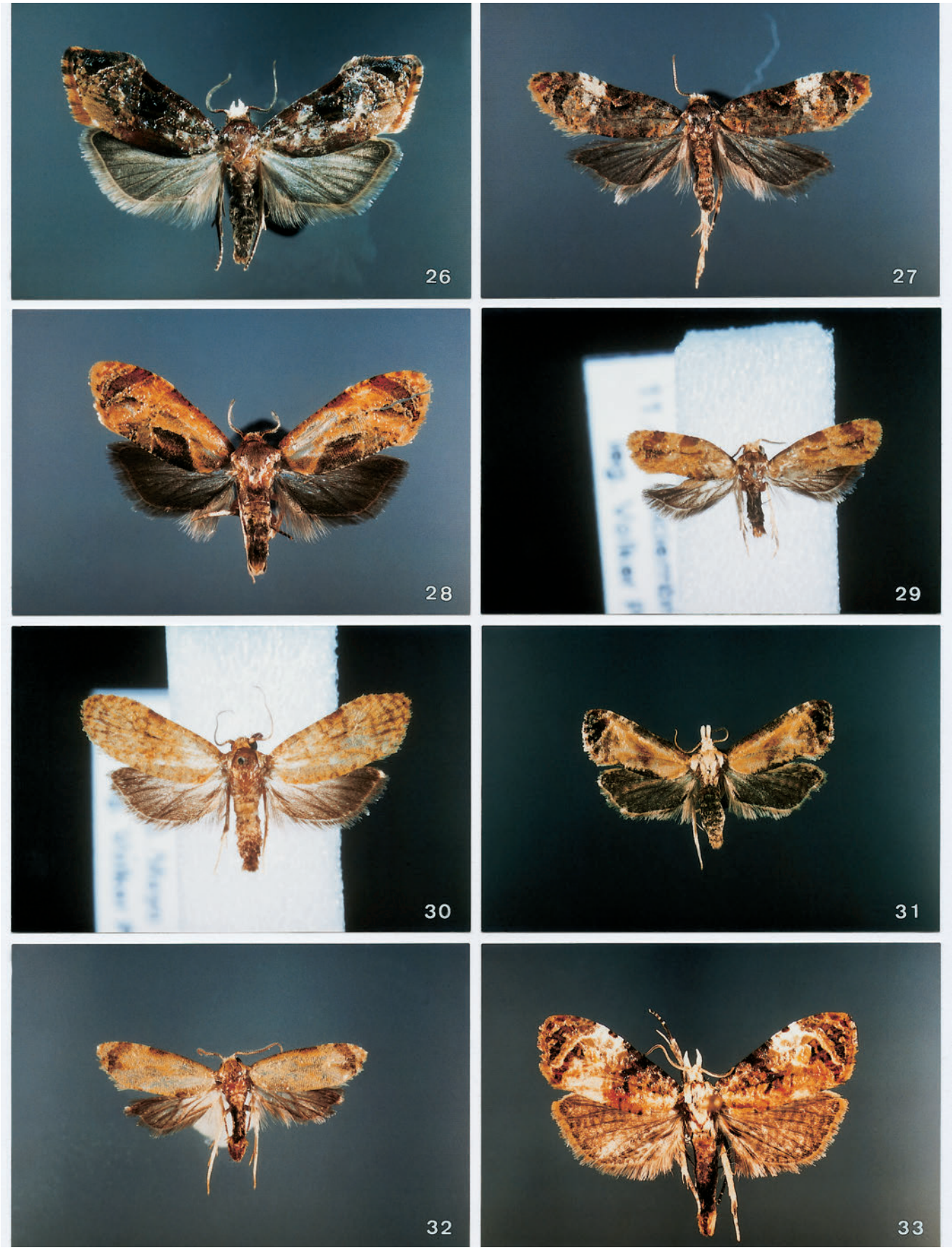

Color plate 2: Figs. 26–33: Imagines. **Fig. 26:** *Henricus metalliferus* sp. n., holotype ♂, wing span 13 mm. **Fig. 27:** *Phalonidia nonaxyra* Razowski, 1994, ♀, Ecuador, Morona-Santiago Prov., Macas, Proaño > Alshi, 5 km SO Alshi, 1700 m, 5. vii. 1999, leg. Volker Pelz, GS 1003-V.P., CVPR, wing span 13 mm. **Fig. 28:** *Saphenista rivadeneirai* sp. n., holotype ♂, wing span 12 mm. **Fig. 29:** *Mourecochylis ramosa* Razowski & Becker, 1983, ♂, Ecuador, Morona-Santiago Prov., Macas, Gral. Proaño, Río Jurumbaino, 1100 m, 11.–23. xii. 1997, leg. Volker Pelz, GS 682-V.P., CVPR, wing span 9 mm. **Fig. 30:** *Macasinia furcata* sp. n., holotype ♂, wing span 11 mm. **Fig. 31:** *Eugnosta proanoa* sp. n., paratype ♀, wing span 18 mm. **Fig. 32:** *Perlorita pilumgestatum* sp. n., holotype ♂, wing span 10 mm. **Fig. 33:** *Aethes macasiana* sp. n. holotype ♂, wing span 23 mm.

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Saphenista nephelodes (Clarke, 1968)

Material examined: Two ♂♂ from Macas, Proaño > Inapula, CREA-Domono, collected at 1100 m.

This species was known from Bolivia only where it was collected at an altitude of 2100 m. New to Ecuador, probably more widely distributed in the mountains of this part of the continent.

Saphenista sp. near *aculeata* (Razowski, 1967)

Material examined: One ♀ collected together with *S. nephelodes.*

The type of *S. aculeata* from Huigra, Ecuador is a ♂, thus the comparison is based on external characters only. However, our specimen is much darker, with olive brown markings.

Platphalonidia fusifera (Meyrick, 1912)

Material examined: One ♂ from Macas, Proaño > Inapula, CREA-Domono, 1100 m.

Our specimen does not differ from the Brazilian ones collected in various parts of that country. This species is probably widely distributed as it is also found in Argentina.

Mourecochylis ramosa Razowski & Becker, 1983 (Fig. 29)

Material examined: One ♂ from Macas, Gral. Proaño, Río Jurumbaino, 1100 m.

Formerly this species was known from Paraná, Brazil, only. Our specimen differs from the holotype in having a somewhat shorter terminal structure of the tegumen (probably fused uncus and socii), with a little larger apical concavity. This can, however, also depend on the preparation.

Macasinia gen. n.

Type-species: *Macasinia furcata* sp. n.

Etymology: Topographical name referring to the town of Macas.

Venation. In forewing R3 near R4 at median cell, R4–R5 strongly approaching, R5 to apex; CuA2 opposite $^1/_3$ distance R1–R2. In hindwing Rs–M1 stalked to $^1/_3$, M3–CuA1 stalked to $^1/_8$.

♂ genitalia. Top part of tegumen large, slender, hairy, provided with small apical bifurcation; vinculum not coalesced ventrally; valva simple, broad in basal half; sacculus without any projection; lateral parts of transtilla small, median part wedge shaped; juxta minute; aedeagus very broad, with short caulis; cornuti missing.

Remarks. Externally similar to some species of *Saphenista* and its allies. Abdominal scent organs absent; female unknown. Probably closest to *Mielkeana* Razowski & Becker, 1983 as having similar terminal portion of the tegumen. However, the socii are completely reduced (represented by scarce hairs only) and the apical bifurcation is a part of the tegumen and not of the socii.

Macasinia furcata sp. n. (Figs. 17, 18, 30)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Gral. Proaño, Río Jurumbaino, 1100 m, 19.–23. Mayo 1998, leg. Volker Pelz"; GS 678-V.P. (CVPR, to be deposited in SMFL).

Etymology: The specific name refers to the bifurcated shape of the apical part of the tegumen (Latin: furca = fork).

Description

♂ (Fig. 30). Wing span 11 mm; head brownish yellow; labial palpus over 1; thorax browner than head. Forewing broad, weakly expanding terminally; costa rather straight to $^2/_3$, then bent; apex short, rounded; termen oblique, hardly convex. Ground colour yellow; markings: numerous brownish yellow transverse lines, some indistinctly expanding at costa; venation in distal part of wing concolorous with lines; cilia concolorous with ground colour, divisions so with lines. Hindwing brownish, paler, mixed creamy in basal third; cilia brownish creamy with browner median line.

♂ genitalia (Figs. 17, 18) as described for the genus; other minor characters see figures.

Eugnosta proanoa sp. n. (Figs. 19, 20, 21, 31)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Proaño> Inapula, CREA-Domono, 1100 m, 27.–30. Abril 1998, leg. Volker Pelz"; GS 727-V.P. (CVPR, to be deposited in SMFL).

Paratypes: 1 ♀ (allotype) Morona-Santiago Prov., Macas, 1000 m, 25. vi.–4. vii. 1999, GS 949-V.P.; 3 ♂♂: 1 as allotype, 1 as holotype but date 30. iii.–2. iv. 1998, GS 758-V.P., and 1 Macas, San Vicente, Río Yukipa, 900 m, 6.–13. ii. 1996, GS 731-V.P. (all in CVPR).

Etymology: The specific name refers to the village General Proaño near Macas.

Description

♂. Wing span 13–15 mm. Head and thorax white, labial palpus ca. 2, very broad; forewing slender, slightly expanding terminally; apex rather rounded; termen hardy convex, weakly oblique. Ground colour creamy suffused pale ochreous, with some whiter place in subapical area; costa strigulated brownish, suffused grey to beyond middle, with some ochreous strigulae or spots mainly in distal area of wing; dorsum marked blackish. Markings in form of diffuse median fascia, ochreous medially, brown in dorsal portion and blackish subapical, apical and subterminal marks. Cilia creamy with brown-grey basal line, terminations and some divisions. Hindwing brownish; cilia paler, creamer, with brownish lines.

♂ genitalia (Figs. 19, 20). Socii rather long, slender in distal half; vinculum broad, continuous ventrally; valva broad, with short terminal, slender part; sacculus concave medially, broadly rounded caudally, armed with dorso-median triangular plate; transtilla a slender transverse band; aedeagus densely spined in distal third; caulis very large.

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♀ (Fig. 31). Wing span 18 mm. Head and thorax creamy; ground colour concolorous with ochrous suffusions and distinct refractive markings (in worn ♂♂ hardly visible); postmedian fascia ochreous olive, subapical fascia chestnut brown in middle, blackish from before middle. Hindwing brown-grey.

♀ genitalia (Fig. 21). Sterigma very large with peculiar posterior plate fusing with half-moon proximal sclerite; colliculum broad, with distinct median sclerite; proximal portion of ductus bursae short with sclerotized folds extending into corpus bursae.

Remarks. This species has a distinct position within the genus *Eugnosta* Billberg, 1820 because of its highly specialised valva, caulis and sterigma. A simple transtilla developed most probably in course of a secondary reduction of the median process, similar to that in the Palaearctic *Commophila* Hübner, 1825. Coloration as in many other New World representatives of the genus.

Perlorita gen. n.

Type-species: *Perlorita pilumgestatum* sp. n.

Etymology: The genus name refers to the cochyline genus *Lorita* Busck, 1939 with the strengthening latin prefix per.

Venation. In forewing all veins separate, R5 just to before apex; CuA2 opposite mid-distance between bases R1–R2; in hindwing Rs–M1 stalked to $^1/_3$, Rs short; remaining veins run separate.

♂ genitalia. Tegumen very large; uncus absent, functionally replaced by a very strong apical process of the tegumen; socii missing; vinculum complete; valva with outwardly curved costa; median part of transtilla and submedian dorsal lobes well developed; juxta small; aedeagus large, with subterminal caulis and large coecum penis; cornuti numerous small, non-capitate spines forming a band throughout aedeagus.

Remarks. This genus somewhat resembles *Lorita* Busck, 1939 especially in the shapes of the valva and the transtilla. The aedeagus and the arrangement of the cornuti are similar to *Enallcochylis* Becker & Razowski, 1986 or *Empedcochylis* Razowski, 1994. The supposed autapomorphy is the presence of an apical process of the tegumen. A monotypical genus.

Perlorita pilumgestatum sp. n. (Figs. 22, 23, 32)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Proaño > Inapula, CREA-Domono, 1100 m, 20.–23. Abril 1998, leg. Volker Pelz"; GS 736-V.P. (CVPR, to be deposited in SMFL).

Paratype: 1 ♂, same data, GS 730-V.P. (CVPR).

Etymology: The species is named due to the shape of the process of the tegumen (Latin: pilum = javelin, gestare = to carry).

Description

♂ (Fig. 32). Wing span 10 mm. Head white, labial palpus over 1, creamy; thorax pale brownish creamy. Forewing slender rather not expanding terminally; costa indistinctly convex; termen oblique. Ground colour creamy with indistinct ochreous admixture; dorsum except for basal third and median part of costa suffused and strigulate brownish grey; subterminal fascia rather concolorous, with blackish convex distal edge terminating at mid-termen; a few black-brown dots along wing edges in apical area. Cilia worn, creamy with brown remnants of basal line. Hindwing slender, rather transparent, pale brownish, paler in basal area; cilia much paler than wing.

♂ genitalia (Figs. 22, 23). Apical process of tegumen bifid apically; costa of valva strongly expanding medially; sacculus slender except for basal part, with small free termination; disc of valva spiny distally and dorsally; median part of transtilla broad to beyond middle, then very slender, minutely thorny; termination of aedeagus slender; a plate-shaped sclerite in vesica.

Aphalonia praeposita (Meyrick, 1917)

Material examined: Two ♀♀ from Macas, Proaño > Inapula, CREA-Domono, 1100 m.

The specimens examined fit well to the type of this species and also resemble another Peruvian species, *A. monstrata* Razowski, 1984.

The ♀ genitalia were unknown till now. They are characterized by a broad ostium bursae extending ventrally into the colliculum and simple lateral plates of the sterigma interconnected by means of a membrane; ductus bursae as long as corpus bursae, both minutely spined.

Aethes macasiana sp. n. (Figs. 24, 25, 33)

Holotype ♂: "Ecuador, Morona-Santiago Prov., Macas, Proaño > Inapula, CREA-Domono, 1100 m, 27.–30. Abril 1998, leg. Volker Pelz"; GS 749-V.P. (CVPR, to be deposited in SMFL).

Etymology: The specific name refers to the town of Macas.

Description

♂ (Fig. 33). Wing span 23 mm. Head and thorax whitish, labial palpus ca 2.5, proximal half of tegula and collar grey, two rust spots beyond this last. Shape and coloration of forewing similar to those in *A. turialba* (Busck, 1920). Hindwing brownish with dense darker strigulation.

♂ genitalia (Figs. 24, 25) similar to those in *A. turialba* but spiny, plicate part of sacculus very short, dorsal arm of aedeagus slender, longer and median part of transtilla broad, nacked.

Remarks. *A. macasiana* belongs to a group of species closely related to *A. turialba* which was placed by Clarke (1968) together with *A. alphitopa* (Clarke, 1968) in the genus *Hysterosia* Stephens, 1852 (a synonym of *Phtheochroa* Stephens, 1829). Then another Ecuadorian species, *A. nuda* Razowski & Becker, 1999 was described in this group. This rather compact group is certainly more rich

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in species (two undescribed ones found in the northern part of the continent).

Aethesoides sp. near *inanita* Razowski & Becker, 1986

Material examined: 7 ♂♂, 4 ♀♀ from Macas: Proaño > Inapula, CREA-Domono, 1100 m; Gral. Proaño, Río Jurumbaino, 1100 m and Pto. Morona, Río Shaimi, 350 m.

The specimens examined genitalically hardly differ from the Mexican *A. inanita.* They also are very close to *A. columbiana* Razowski, 1967 (cf. Razowski 1964). The ♂♂ of the Ecuadorian specimens show some external and genitalic (the size and shape of the cornutus) variation.

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Buchbesprechung

Rolf Wisskirchen & Henning Haeupler [in: Bundesamt für Naturschutz (Hrsg.)] (1998): **Standardliste der Farn- und Blütenpflanzen Deutschlands.** — Stuttgart (Ulmer), 765 S. ISBN 3-8001-3360-1, Preis: DM 148,— (zu beziehen beispielsweise über Antiquariat Goecke & Evers, Inh. Erich Bauer, Sportplatzweg 5, D-75210 Keltern-Weiler, E-Mail entomology@s-direktnet.de).

Neben der mittlerweile 25 Jahre alten Ehrendorfer-Liste war die „Standardliste der Farn- und Blütenpflanzen der Bundesrepublik Deutschland (vorläufige Fassung)“ der Zentralstelle für floristische Kartierung der Bundesrepublik Deutschland (Nord) [Hrsg.] (1993) als aktuelle Fortschreibung der Namensgebung im Florenatlas von H. Haeupler & P. Schönfelder (1989) in den vergangenen Jahren eine wichtige Grundlage für die botanische Nomenklatur in Deutschland. Das kürzlich neu bearbeitet in Buchform erschienene Werk enthält in gewohnt übersichtlicher Darstellung die derzeit gültigen Namen von über 4000 Pflanzensippen einschließlich sämtlicher Synonyme und ist ein Verzeichnis der wissenschaftlichen und deutschen Namen aller in Deutschland wild wachsenden oder eingebürgerten Farn- und Blütenpflanzen. Zusätzlich gibt die neue Standardliste Aufschluß über die standardisierten Autorennamen, Zitate der Originalbeschreibungen sowie diverse Kommentare und Bestimmungshinweise. Zwei weitere umfangreiche Bände (Bildatlas und Verbreitungsatlas) sind in Vorbereitung.

Auf die besondere Bedeutung von botanischen Kenntnissen für den lepidopterologisch interessierten Feldentomologen braucht an dieser Stelle nicht ausführlich eingegangenen zu werden. Aber auch der an ernsthafter Dokumentation von Schmetterlingszuchten interessierte Amateur wird an diesem Standardwerk nicht vorbeikommen. Insbesondere im Zusammenhang mit geplanten Publikationen über die Zuchten von exotischen Arten, beispielsweise aus den beliebten Familien der Brahmaeidae, Saturniidae und Sphingidae (Lepidoptera), auf einheimischen Futterpflanzen sollte sich eine korrekte Artbestimmungen und Nomenklatur nicht nur auf den zoologischen Aspekt beziehen, sondern selbstverständlich auch die botanische Taxonomie und Nomenklatur umfassen.

Der auf dem ersten Blick recht hohe Preis von DM 148,— erscheint nach Abwägung der Ausstattung und des Umfanges angemessen. Das Werk ist ohne Einschränkungen zu empfehlen, weil es weit über den Rahmen einer reinen Namensliste hinausgeht. Es sollte in keinem Bücherregal mit entomologischem Schwerpunkt fehlen.

Ulrich Brosch

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